

THE NAVAJO NATION
Division of Natural Resources
Navajo Abandoned Mine Lands Reclamation Program (NAMLRP)

Scope of Work for the NAMLRP Projects:

Cameron 6 AML Project - NA0116

This project involves the crossing of an ephemeral stream, the Moenkopi Wash. This access road leads to three (3) NAMLRP projects which are scheduled for reclamation work. The 3 NAMLRP projects are over 0.5 miles away from this crossing area. No upgrading or blading of this crossing will be allowed during the construction activities. Personnel vehicles and heavy equipment will utilize this crossing to gain access to the NAMLRP projects. Very little to no impacts via discharging are expected, thus very little water quality degradation is expected. The total impacted access area is expected to be 300 feet long by 30 feet wide, less than 1/4 acre. Total projected time within this area is estimated at 30 calendar days.

Cameron 6 AML Project - NA-0164 (Alternative 1)

Due to changes being recommended by the U.S. Army Corp, changes to this project have been initiated. This project will be changed to obtain borrow material from within the impacted project boundary, rather than from a man-made stock pond. Approximately 1,000 cubic yards of clay material will be excavated from within the project boundary, project boundary is currently at 10.3 acres. Since the excavation process will be borrowing material, very little to no discharge of material is expected from this operation. This location is over 1.0 mile away from the Little Colorado River. Total projected time within this area is estimated at 45 calendar days.

Cameron 6 AML Project - NA0175 (Alternative 1)

Due to changes being recommended by the U.S. Army Corp, changes to this project have been initiated. This project involves the repair/maintenance of a dike. The man-made dike has breached and no longer holds water. The dike will be repaired with upgradient clay material properly compacted. Borrow material will be excavated to rebuild and expand the dike by 10 feet wide. Approximately 8,000 cubic yards of material will be excavated from the upland project boundary, thus the expected impacted area will be less than 2.0 acres. Since this is an excavation process, very little to no discharge of material is expected from this operation. This area is also located within an area of past NAMLRP projects. The associated tributaries lead into the Little Colorado River, which is over 0.5 mile away to the west. Total projected time within this area is estimated at 30 calendar days.

Bidahochi 1 AML Project - NA0751 (Alternative 1)

Due to changes being recommended by the U.S. Army Corp, changes to this project have been initiated. This project involves the excavation of borrow material from within the project boundaries. Approximately 1,500 cubic yards of clay material will be excavated from this area. The current project boundary is at 2.0 acres. Since the excavation process will be borrowing material, very little to no discharge of material is expected from this operation. This location is within a small tributary that eventually leads into the Pueblo Wash, which is over 1.0 mile away to the west. Total projected time within this area is estimated at 20 calendar days.

Sweetwater 2 AML Project - NA0504

This project involves the crossing of an ephemeral stream, the Seklagaidesa Canyon. This access road leads to one (1) NAMLRP project. The NAMLRP projects are over 0.5 miles away from this crossing area. No upgrading or blading of this crossing will be allowed during the construction activities. Personnel vehicles and heavy equipment will utilize this crossing to gain access. Very little to no impacts via discharging are expected, thus very little water quality degradation is expected. The total impacted access area is expected to be 6,000 feet long by 10 feet wide, 1.4 acres. Total projected time within this area is estimated at 15 calendar days.

Sweetwater 2 AML Project - NA0518

This project involves an ephemeral stream, the Tsitah Wash. This access road leads to one (1) NAMLRP project. The NAMLRP project is over 0.5 mile away from this stream area. Since this area involves a wetland area, measuring 200 feet long by 30 feet wide (0.1 acre), no upgrading or blading of this area will be allowed during the construction activities. Personnel vehicles will be required to stop at a construction yard located down gradient of this wetland area, approximately 500 feet away. All access to the project site will be via foot. Very little to no impacts via discharging are expected, thus very little water quality degradation is expected. Total projected time within this area is estimated at 10 calendar days.

Cameron 6 AML Project - NA0175; alternative 1

THE NAVAJO NATION

Navajo Abandoned Mine Lands Reclamation Program

Photo #1:

Looking to the west, closeup of the breached dike area. The dike has failed by undercutting. Per the scheduled scope of work, this area will be fully excavated and backfilled. An additional 10 feet wide of material will be utilized to reinforce this dike. The upgradient clay sediment will be utilized as a source of borrow material. All slopes will be contoured to blend with the natural topography.

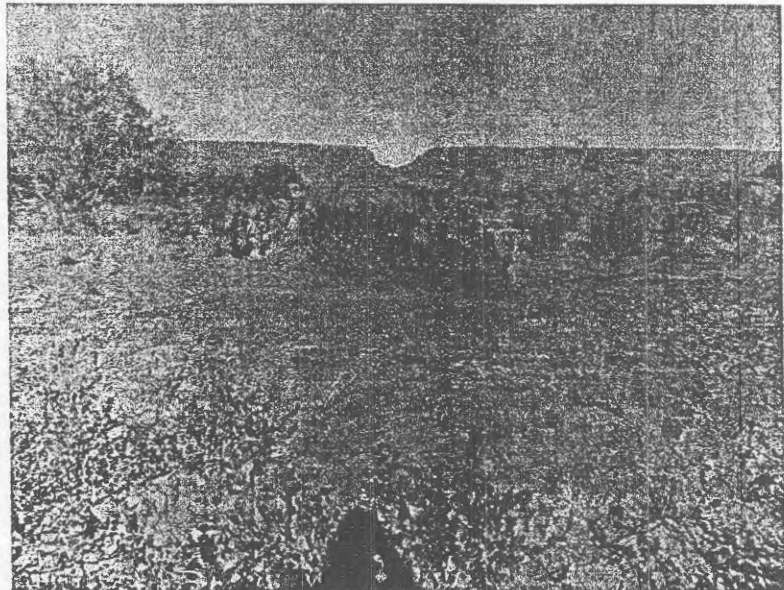
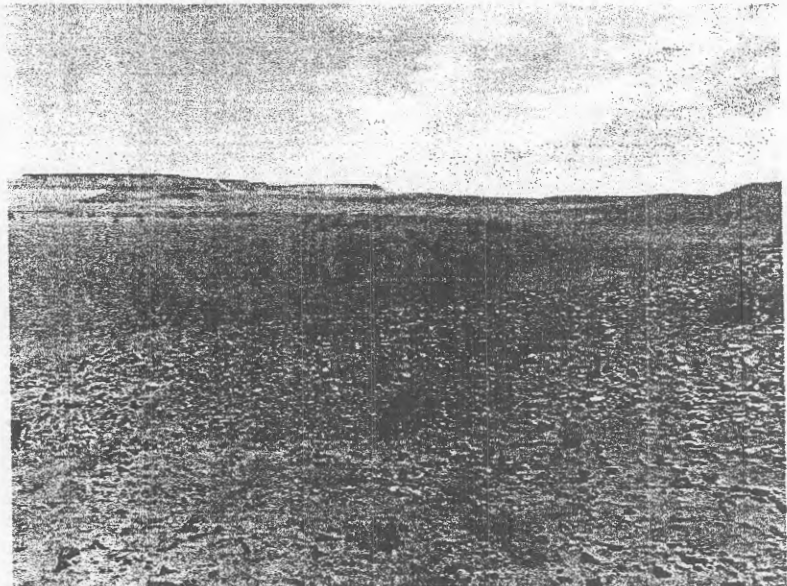
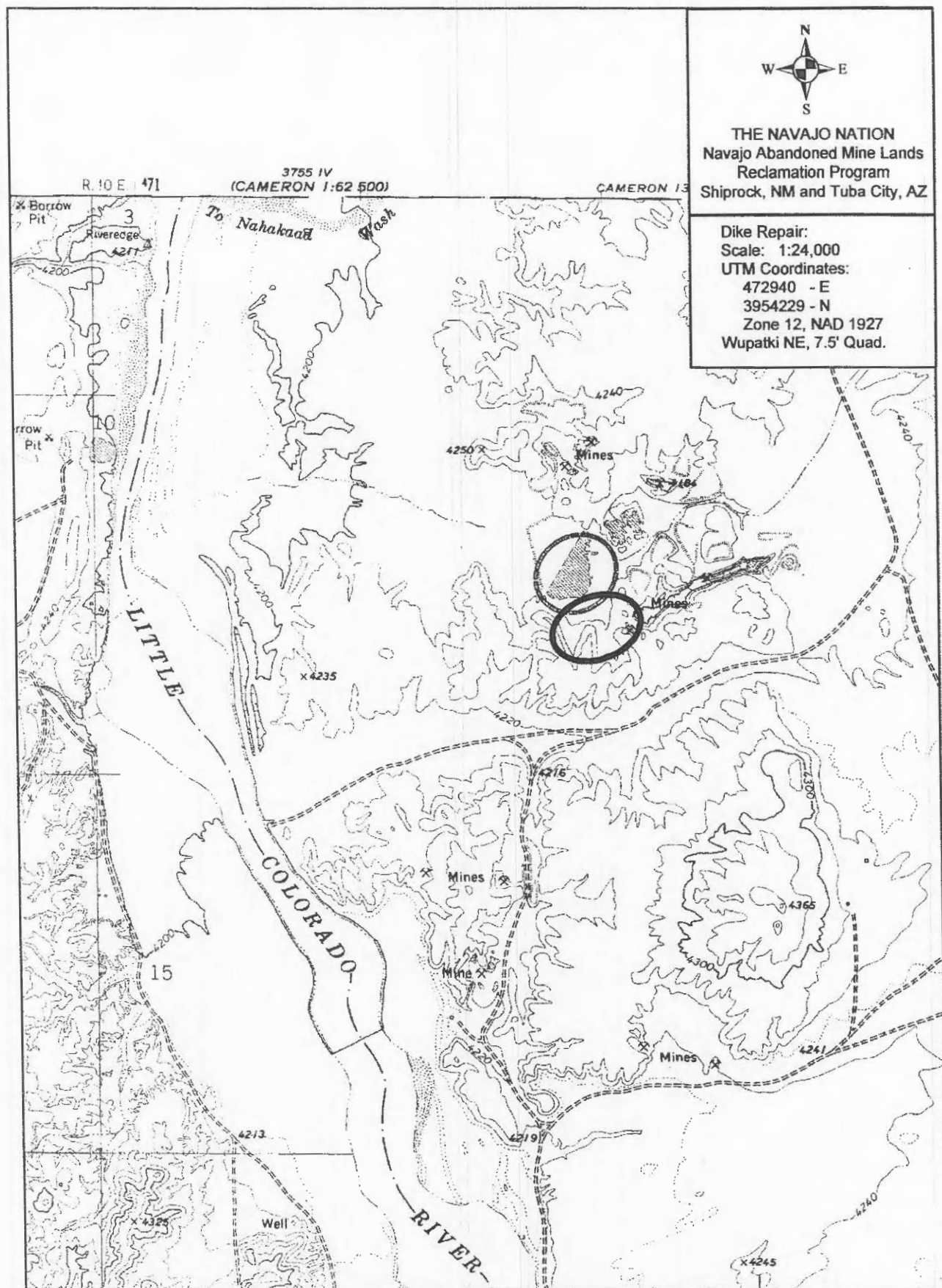


Photo #2:

Looking to the east from the edge of the southern dike, at the new source of upland borrow material. Per the scheduled scope of work, this area will be excavated and transported to the dike. An additional 10 feet wide of material will be utilized to reinforce this dike. This is in an area that was previous disturbed by the reclamation of other NAMLRP project sites. All slopes will be contoured to blend with the natural topography.



Cameron 6 AML Project - NA0175 (Alternative 1)



Cameron 6 AML Project - NA0164; alternative 1

THE NAVAJO NATION

Navajo Abandoned Mine Lands Reclamation Program

Photo #1:

Looking to the northwest. The man-made stock pond and associated vegetation. Per the scope of work, this area will be excavated as a source of borrow material and to increase the holding capacity of this area. This material will be transported to associated reclamation projects by dump trucks.



THE NAVAJO NATION
 Navajo Abandoned Mine Lands
 Reclamation Program
 Shiprock, NM and Tuba City, AZ

Borrow Material - On Site:
 Scale: 1:24,000
 UTM Coordinates:
 465493 - E
 3957612 - N
 Zone 12, NAD 1927
 Cameron South, 7.5' Quad

The map displays a grid of UTM coordinates (Easting 464 to 465000mE, Northing 3957000 to 3961000mN). Elevation contours are shown at 20-foot intervals, with labels such as 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000, 1010, 1020, 1030, 1040, 1050, 1060, 1070, 1080, 1090, 1100, 1110, 1120, 1130, 1140, 1150, 1160, 1170, 1180, 1190, 1200, 1210, 1220, 1230, 1240, 1250, 1260, 1270, 1280, 1290, 1300, 1310, 1320, 1330, 1340, 1350, 1360, 1370, 1380, 1390, 1400, 1410, 1420, 1430, 1440, 1450, 1460, 1470, 1480, 1490, 1500, 1510, 1520, 1530, 1540, 1550, 1560, 1570, 1580, 1590, 1600, 1610, 1620, 1630, 1640, 1650, 1660, 1670, 1680, 1690, 1700, 1710, 1720, 1730, 1740, 1750, 1760, 1770, 1780, 1790, 1800, 1810, 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980, 1990, 2000, 2010, 2020, 2030, 2040, 2050, 2060, 2070, 2080, 2090, 2100, 2110, 2120, 2130, 2140, 2150, 2160, 2170, 2180, 2190, 2200, 2210, 2220, 2230, 2240, 2250, 2260, 2270, 2280, 2290, 2300, 2310, 2320, 2330, 2340, 2350, 2360, 2370, 2380, 2390, 2400, 2410, 2420, 2430, 2440, 2450, 2460, 2470, 2480, 2490, 2500, 2510, 2520, 2530, 2540, 2550, 2560, 2570, 2580, 2590, 2600, 2610, 2620, 2630, 2640, 2650, 2660, 2670, 2680, 2690, 2700, 2710, 2720, 2730, 2740, 2750, 2760, 2770, 2780, 2790, 2800, 2810, 2820, 2830, 2840, 2850, 2860, 2870, 2880, 2890, 2900, 2910, 2920, 2930, 2940, 2950, 2960, 2970, 2980, 2990, 3000, 3010, 3020, 3030, 3040, 3050, 3060, 3070, 3080, 3090, 3100, 3110, 3120, 3130, 3140, 3150, 3160, 3170, 3180, 3190, 3200, 3210, 3220, 3230, 3240, 3250, 3260, 3270, 3280, 3290, 3300, 3310, 3320, 3330, 3340, 3350, 3360, 3370, 3380, 3390, 3400, 3410, 3420, 3430, 3440, 3450, 3460, 3470, 3480, 3490, 3500, 3510, 3520, 3530, 3540, 3550, 3560, 3570, 3580, 3590, 3600, 3610, 3620, 3630, 3640, 3650, 3660, 3670, 3680, 3690, 3700, 3710, 3720, 3730, 3740, 3750, 3760, 3770, 3780, 3790, 3800, 3810, 3820, 3830, 3840, 3850, 3860, 3870, 3880, 3890, 3900, 3910, 3920, 3930, 3940, 3950, 3960, 3970, 3980, 3990, 4000, 4010, 4020, 4030, 4040, 4050, 4060, 4070, 4080, 4090, 4100, 4110, 4120, 4130, 4140, 4150, 4160, 4170, 4180, 4190, 4200, 4210, 4220, 4230, 4240, 4250, 4260, 4270, 4280, 4290, 4300, 4310, 4320, 4330, 4340, 4350, 4360, 4370, 4380, 4390, 4400, 4410, 4420, 4430, 4440, 4450, 4460, 4470, 4480, 4490, 4500, 4510, 4520, 4530, 4540, 4550, 4560, 4570, 4580, 4590, 4600, 4610, 4620, 4630, 4640, 4650, 4660, 4670, 4680, 4690, 4700, 4710, 4720, 4730, 4740, 4750, 4760, 4770, 4780, 4790, 4800, 4810, 4820, 4830, 4840, 4850, 4860, 4870, 4880, 4890, 4900, 4910, 4920, 4930, 4940, 4950, 4960, 4970, 4980, 4990, 5000, 5010, 5020, 5030, 5040, 5050, 5060, 5070, 5080, 5090, 5100, 5110, 5120, 5130, 5140, 5150, 5160, 5170, 5180, 5190, 5200, 5210, 5220, 5230, 5240, 5250, 5260, 5270, 5280, 5290, 5300, 5310, 5320, 5330, 5340, 5350, 5360, 5370, 5380, 5390, 5400, 5410, 5420, 5430, 5440, 5450, 5460, 5470, 5480, 5490, 5500, 5510, 5520, 5530, 5540, 5550, 5560, 5570, 5580, 5590, 5600, 5610, 5620, 5630, 5640, 5650, 5660, 5670, 5680, 5690, 5700, 5710, 5720, 5730, 5740, 5750, 5760, 5770, 5780, 5790, 5800, 5810, 5820, 5830, 5840, 5850, 5860, 5870, 5880, 5890, 5900, 5910, 5920, 5930, 5940, 5950, 5960, 5970, 5980, 5990, 6000, 6010, 6020, 6030, 6040, 6050, 6060, 6070, 6080, 6090, 6100, 6110, 6120, 6130, 6140, 6150, 6160, 6170, 6180, 6190, 6200, 6210, 6220, 6230, 6240, 6250, 6260, 6270, 6280, 6290, 6300, 6310, 6320, 6330, 6340, 6350, 6360, 6370, 6380, 6390, 6400, 6410, 6420, 6430, 6440, 6450, 6460, 6470, 6480, 6490, 6500, 6510, 6520, 6530, 6540, 6550, 6560, 6570, 6580, 6590, 6600, 6610, 6620, 6630, 6640, 6650, 6660, 6670, 6680, 6690, 6700, 6710, 6720, 6730, 6740, 6750, 6760, 6770, 6780, 6790, 6800, 6810, 6820, 6830, 6840, 6850, 6860, 6870, 6880, 6890, 690



The Navajo Nation



NAVAJO LAND DEPARTMENT

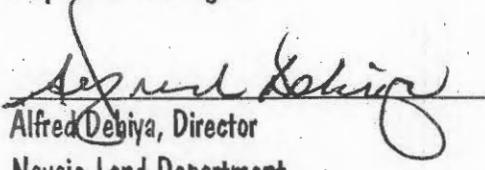
Kelsey A. Begaye
President

Taylor McKenzie, M.D.
Vice- President

MEMORANDUM:

August 25, 2000

TO: Melvin H. Yazzie, Rec. Spec. III
Shiprock AML Program

FROM: 
Alfred Debiya, Director
Navajo Land Department

SUBJECT: Land Verification -34 AML Sites (V-90-00)

Per your request for verification of land status on five project areas are: Bidahochi 1 Aml, Cameron 6 Aml, Coppermine 2 AML, Black Mesa 3 AML, and Sweetwater 2 AML, which are scattered across the Navajo Indian Reservation within the Chinle, Fort Defiance, Shiprock and Tuba City Agencies. Each area and Site are properly identified, see the attached sheet for more detail information.

The area are shown on U.S.G.S. 7.5 minute topographic map titled, "Bittersprings, Blue Gap, Cameron North, SE, & South, Dead Monkey Ridge, Dove Sprngs, Indian Wells, Kinusta Mesa, Rough Rock, Shonto Butte, and Toh Chin Lini Mesa, Arizona - New Mexico." Also, included is a copy of the Navajo Treaty Reservation as established by Article II of the June 1, 1868 Treaty, information was taken from the "Anatomy of the Navajo Indian Reservation, How it Grew".

The sites are located within the Apache, Navajo and Coconino Counties, of the Gila & Salt River Meridian, State of Arizona. The sites are located within the boundary of the Navajo Reservation as established by the following Executive Orders: October 29, 1880; January 8, 1900; May 7, 1917; June 14, 1934; and June 15, 1934, information was taken from the "Anatomy of the Navajo Indian Reservation, How it Grew", and was found to be all Navajo Tribal Trust Land.

Should additional information be required, please contact our office in Window Rock, Arizona at (520) 871-6401, 02.

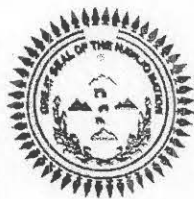
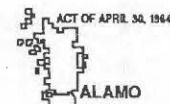
gjh

Project Area	ID	UTM Coordinates	Township & Range	USGS 7.5' Topographical Map	Land Status
Bidahochi 1 AML	NA-0750	N-3923410, E-556606	T25N, R18E	Shonto Butte/ Dilkon, Nav. County, AZ	NT Trust
Bidahochi 1 AML	NA-0751	N-3925652, E-587152	T23N, R21E	Indian Wells, Nav. County, AZ	NT Trust
Cameron 6 AML	NA-0112	N-3995561, E-462197	T31N, R9E	Shadow Mountain Well, Coco. County, AZ	NT Trust
Cameron 6 AML	NA-0114a	N-3975112, E-460918	T29N, R9E	Cameron North, Coco. County, AZ	NT Trust
Cameron 6 AML	NA-0114d	N-3975520, E-459685	T29N, R9E	Cameron North, Coco. County, AZ	NT Trust
Cameron 6 AML	NA-0116	N-3975258, E-461608	T29N, R9E	Cameron North, Coco. County, AZ	NT Trust
Cameron 6 AML	NA-0158a	N-3958324, E-467100	T28N, R10E	Cameron S/Cameron SE, Coco. County AZ	NT Trust
Cameron 6 AML	NA-0158b	N-3958708, E-466957	T28N, R10E	Cameron S/Cameron SE, Coco. County AZ	NT Trust
Cameron 6 AML	NA-0159	N-3958003, E-467627	T28N, R10E	Cameron S/Cameron SE, Coco. County AZ	NT Trust
Cameron 6 AML	NA-0164	N-3957487, E-465523	T28N, R9E	Cameron S/Cameron SE, Coco. County AZ	NT Trust
Coppermine 2 AML	NA-0250	N-4054401, E-459358	T37N, R9E	Dead Monkey Ridge, Coco. County, AZ	NT Trust
Coppermine 2 AML	NA-0251	N-4054428, E-459345	T37N, R9E	Dead Monkey Ridge, Coco. County, AZ	NT Trust
Coppermine 2 AML	NA-0252	N-4053987, E-459540	T37N, R9E	Dead Monkey Ridge, Coco. County, AZ	NT Trust
Coppermine 2 AML	NA-0253	N-4053965, E-459852	T37N, R9E	Dead Monkey Ridge, Coco. County, AZ	NT Trust
Coppermine 2 AML	NA-0254	N-4051295, E-461775	T36N, R9E	Dove Spring, Coco. County, AZ	NT Trust
Coppermine 2 AML	NA-0255	N-4051585, E-462235	T36N, R9E	Dove Spring, Coco. County, AZ	NT Trust
Coppermine 2 AML	NA-0256	N-4051200, E-461394	T36N, R9E	Dove Spring, Coco. County, AZ	NT Trust
Coppermine 2 AML	NA-0257	N-4053644, E-464027	T37N, R9E	Dead Monkey Ridege, Coco. County, AZ	NT Trust
Coppermine 2 AML	NA-0258	N-4053972, E-465430	T37N, R9E	Dead Monkey Ridege, Coco. County, AZ	NT Trust
Coppermine 2 AML	NA-0259	N-4057955, E-442879	T38N, R7E	Bitter Springs, Coco. County, AZ	NT Trust
Black Mesa 3 AML	NA-0704	N-4008030, E-602773	T32N, R23E	Blue Gap/Lohai Point, Apa. County, AZ	NT Trust
Black Mesa 3 AML	NA-0706	N-4011440, E-598314	T33N, R22E	Blue Gap/Lohai Point, Apa. County, AZ	NT Trust
Black Mesa 3 AML	NA-0710	N-4035835, E-595702	T35N, R22E	Rough Rock NW, Apa. County, AZ	NT Trust
Black Mesa 3 AML	NA-0711	N-4036203, E-598568	T35N, R23E	Rough Rock NW, Apa. County, AZ	NT Trust
Black Mesa 3 AML	NA-0712	N-4035488, E-598074	T35N, R23E	Rough Rock NW, Apa. County, AZ	NT Trust
Sweetwater 2 AML	NA-0504	N-4071213, E-650598	T39N, R28E	Toh Chin Lini Mesa, Apa. County, AZ	NT Trust
Sweetwater 2 AML	NA-0510	N-4059121, E-650117	T38N, R28E	Kinusta Mesa, Apa. County, AZ	NT Trust
Sweetwater 2 AML	NA-0511	N-4058604, E-651807	T38N, R28E	Kinusta Mesa, Apa. County, AZ	NT Trust
Sweetwater 2 AML	NA-0512	N-4061814, E-650042	T38N, R28E	Kinusta Mesa, Apa. County, AZ	NT Trust
Sweetwater 2 AML	NA-0513	N-4062334, E-652206	T38N, R28E	Kinusta Mesa, Apa. County, AZ	NT Trust
Sweetwater 2 AML	NA-0514	N-4063264, E-653147	T38N, R28E	Kinusta Mesa, Apa. County, AZ	NT Trust
Sweetwater 2 AML	NA-0515	N-4065181, E-651626	T38N, R28E	Kinusta Mesa, Apa. County, AZ	NT Trust
Sweetwater 2 AML	NA-0516	N-4067600, E-653971	T39N, R28E	Kinusta Mesa, Apa. County, AZ	NT Trust
Sweetwater 2 AML	NA-0518	N-4076932, E-655030	T39N, R29E	Toh Chin Lini Mesa, Apa. County, AZ	NT Trust

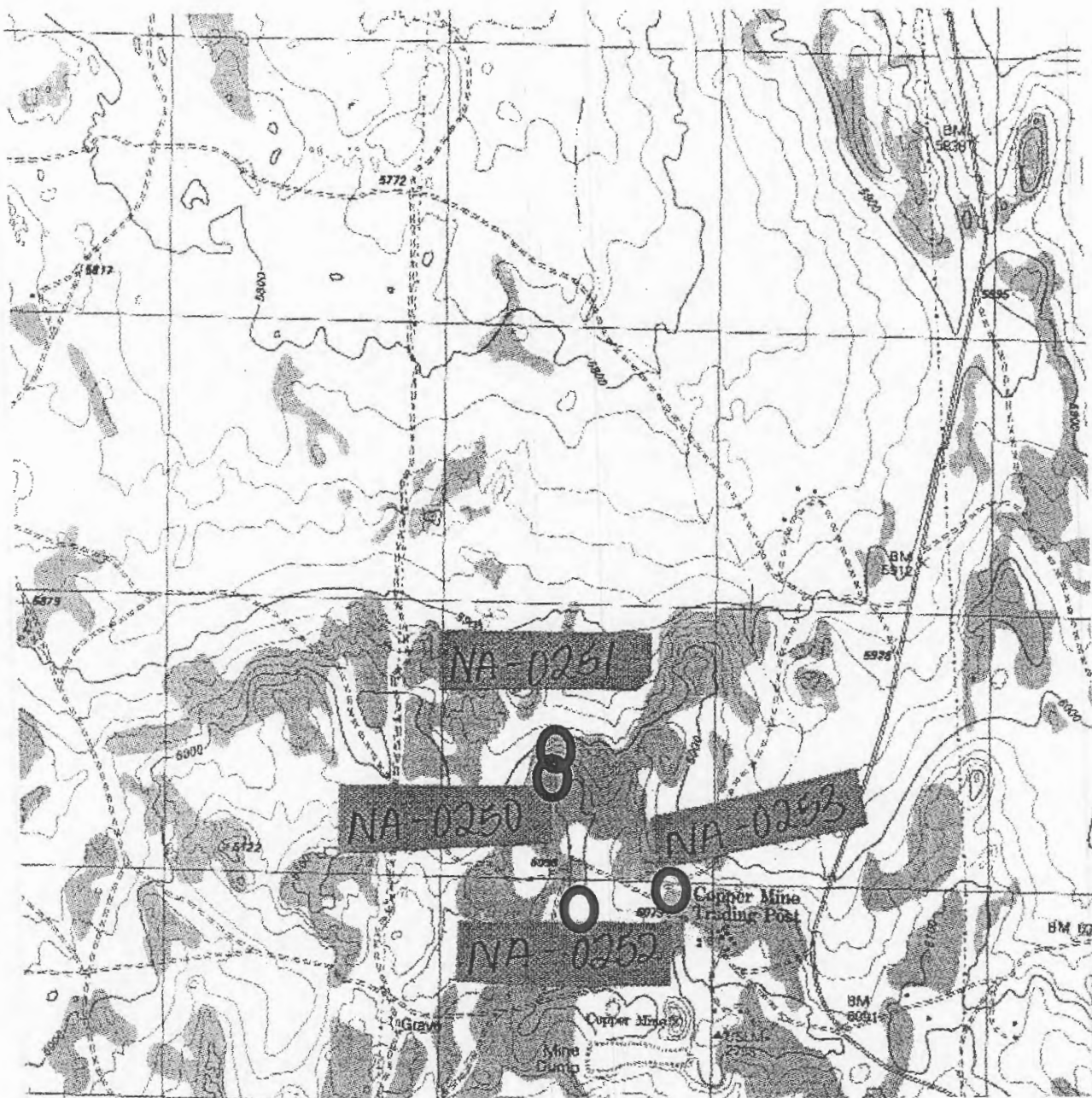
NLD No. V-90-00

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LOCATION OF ABANDONED MINE LAND FALLS WITHIN THE FOLLOWING EXECUTIVE ORDERS:: October 29, 1880, January 8, 1900,
 May 7, 1917, June 14, 1934
 June 15, 1934.



Apache, Navajo & Coconino Arizona

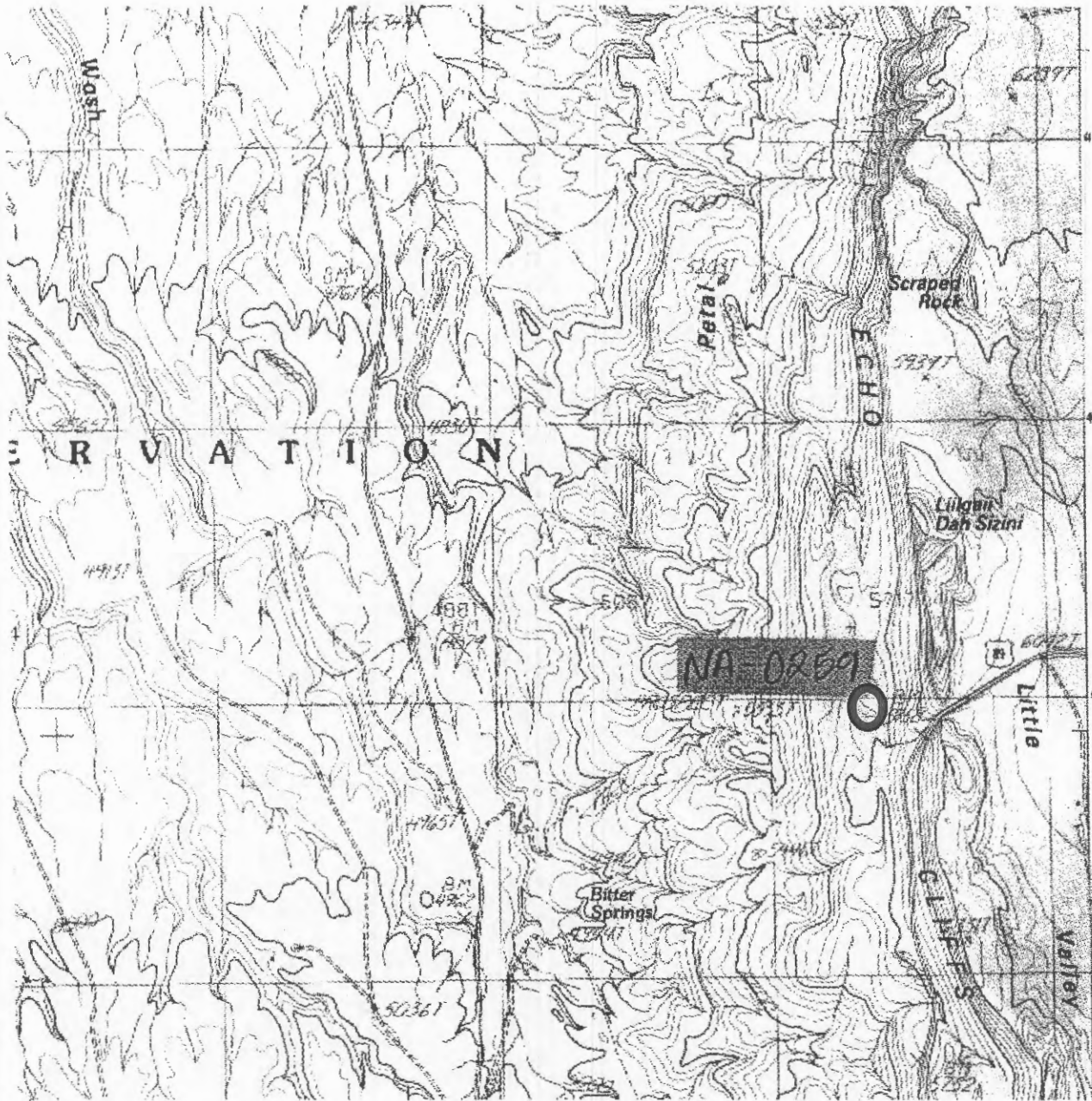


7.5 Minute Topographic Quad Map: Dead Monkey Ridge, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater, Cameron, Coalmine Mesa, Indian Wells, Rough Rock, Sweetwater
County: Apache, Navajo & Coconino
State: Arizona



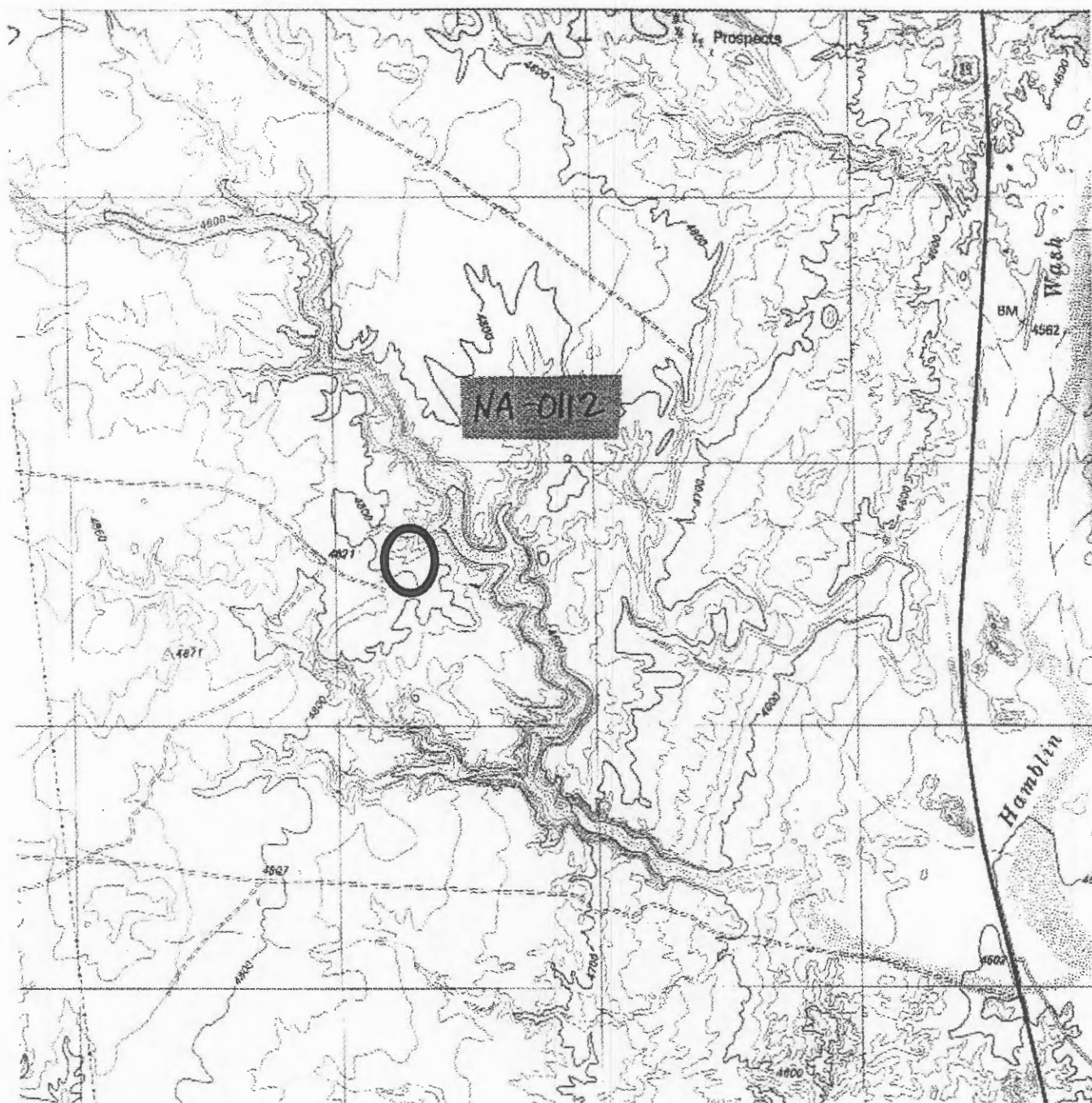


7.5 Minute Topographic Quad Map: Bittersprings, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater,
Cameron, Coalmine Mesa, Indian Wells, Rough Rock,
Sweetwater
County: Apache, Navajo & Coconino
State: Arizona



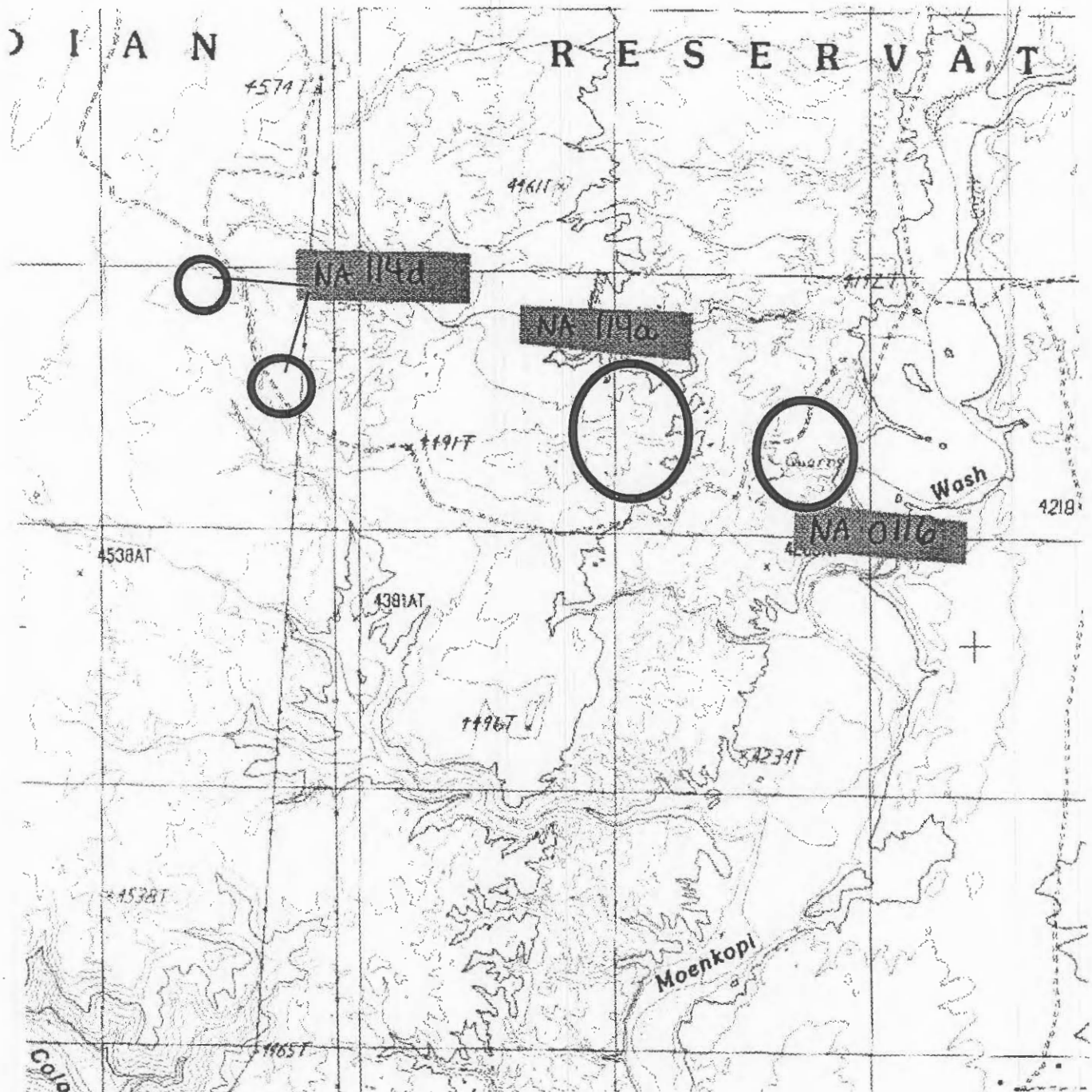


7.5 Minute Topographic Quad Map: Shadow Mountain well, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater,
Cameron, Coalmine Mesa, Indian Wells, Rough Rock,
Sweetwater
County: Apache, Navajo & Coconino
State: Arizona



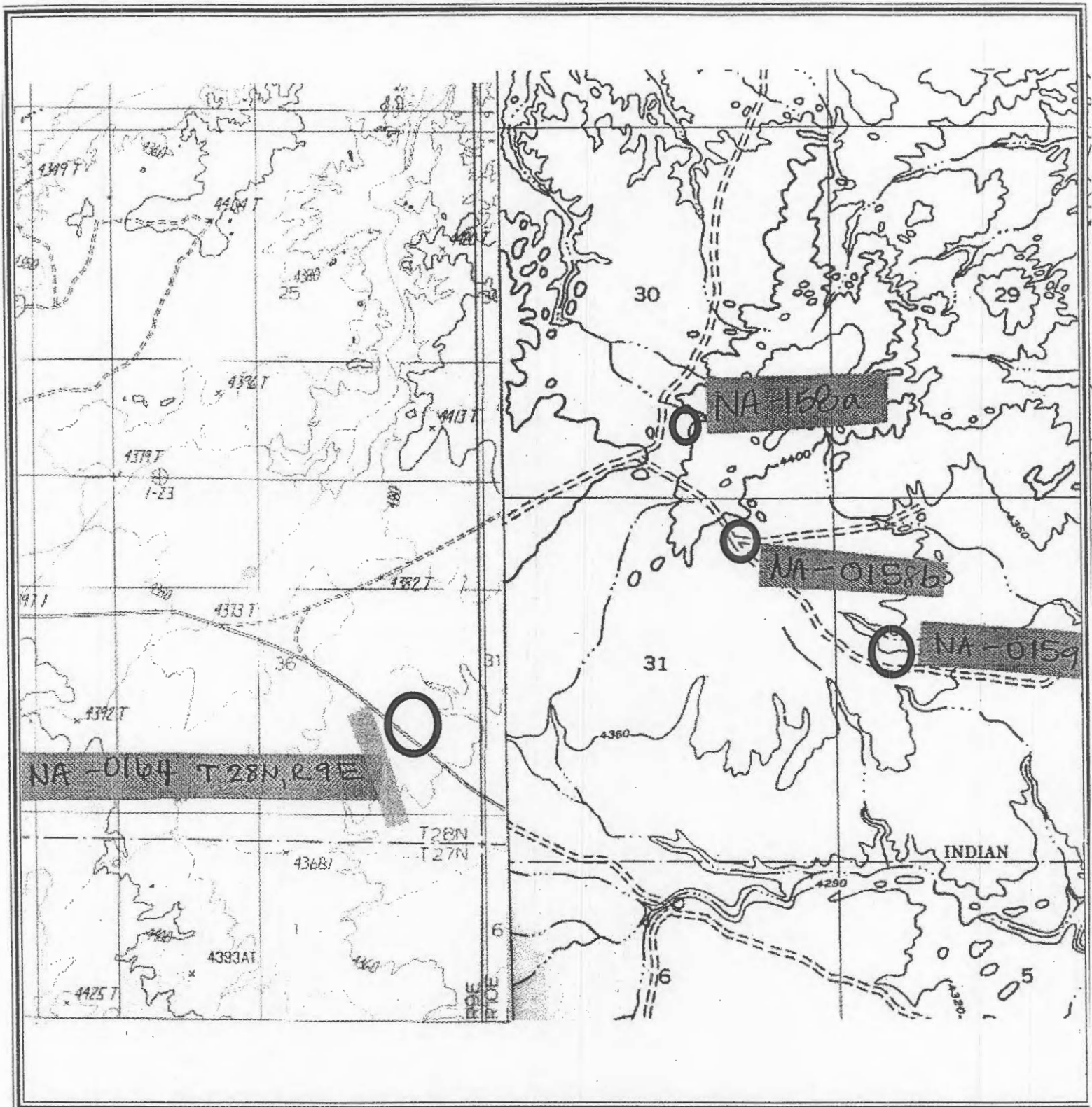


7.5 Minute Topographic Quad Map: Cameron North, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater,
Cameron, Coalmine Mesa, Indian Wells, Rough Rock,
Sweetwater
County: Apache, Navajo & Coconino
State: Arizona





7.5 Minute Topographic Quad Map: Cameron SE, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter:

Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater,
Cameron, Coalmine Mesa, Indian Wells, Rough Rock,
Sweetwater

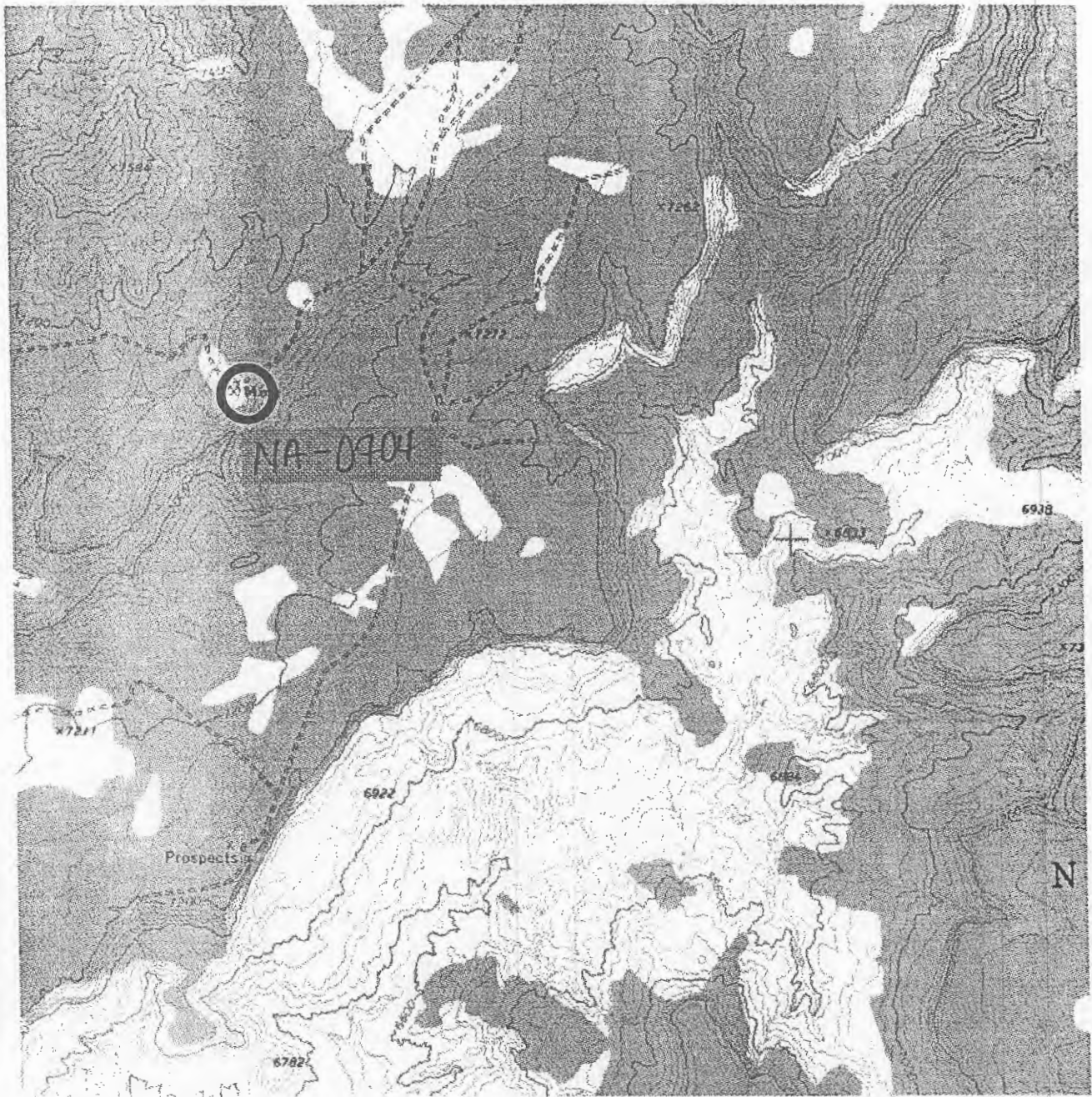
County:

Apache, Navajo & Coconino

State:

Arizona



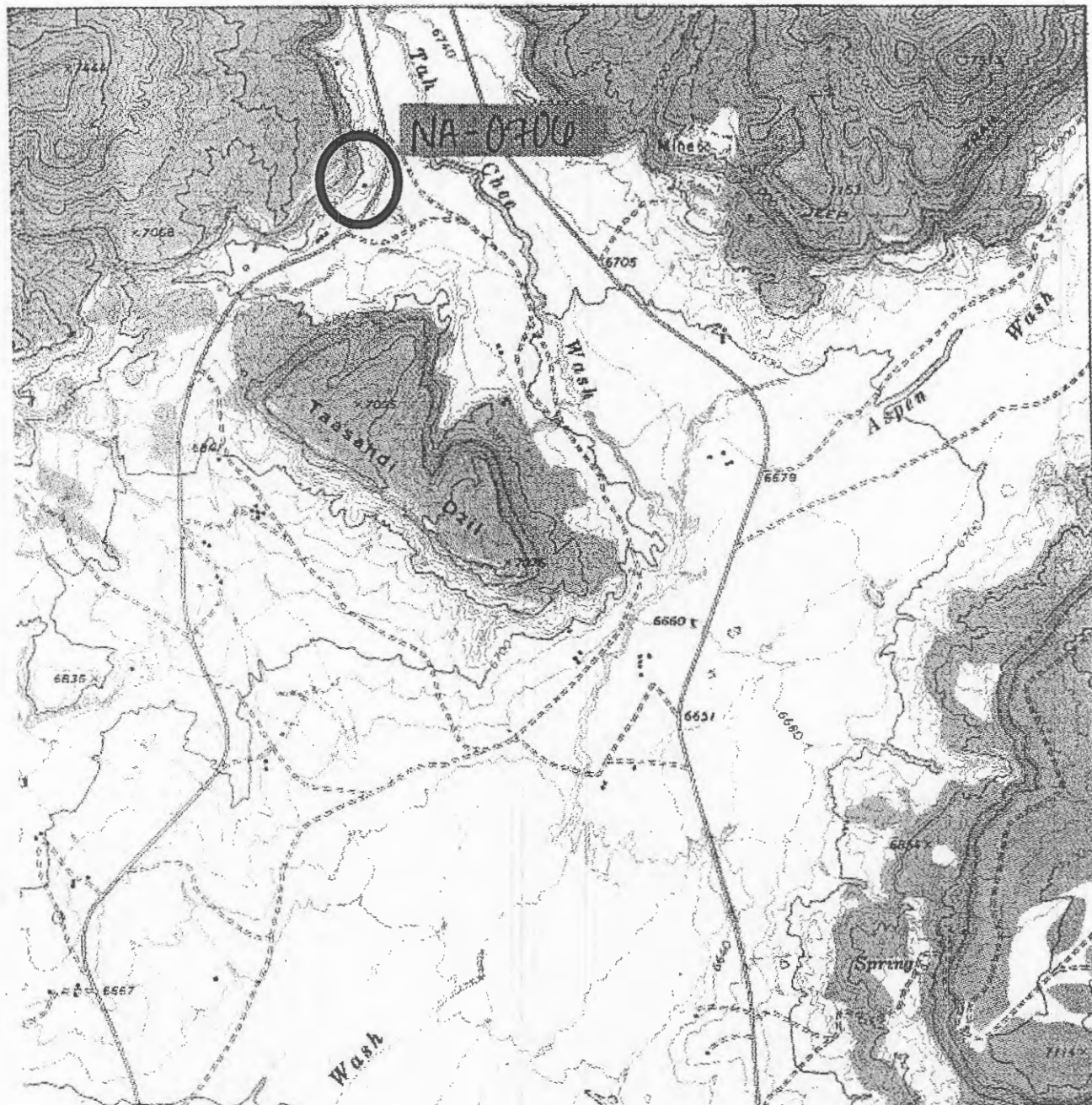


7.5 Minute Topographic Quad Map: Lohali Point, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater,
Cameron, Coalmine Mesa, Indian Wells, Rough Rock,
Sweetwater
County: Apache, Navajo & Coconino
State: Arizona



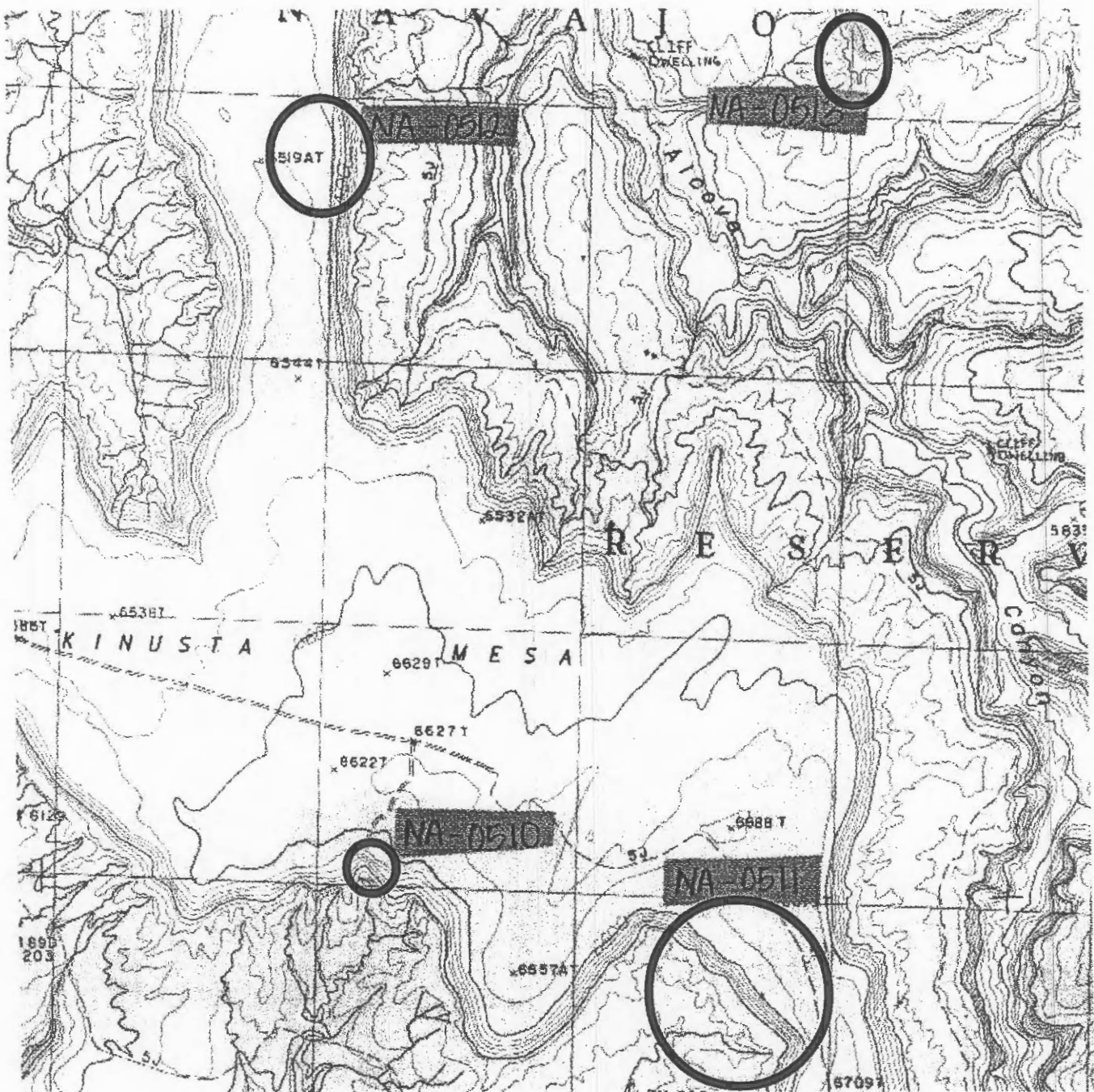


7.5 Minute Topographic Quad Map: Blue Gap, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater, Cameron, Coalmine Mesa, Indian Wells, Rough Rock, Sweetwater
County: Apache, Navajo & Coconino
State: Arizona

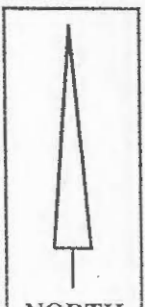


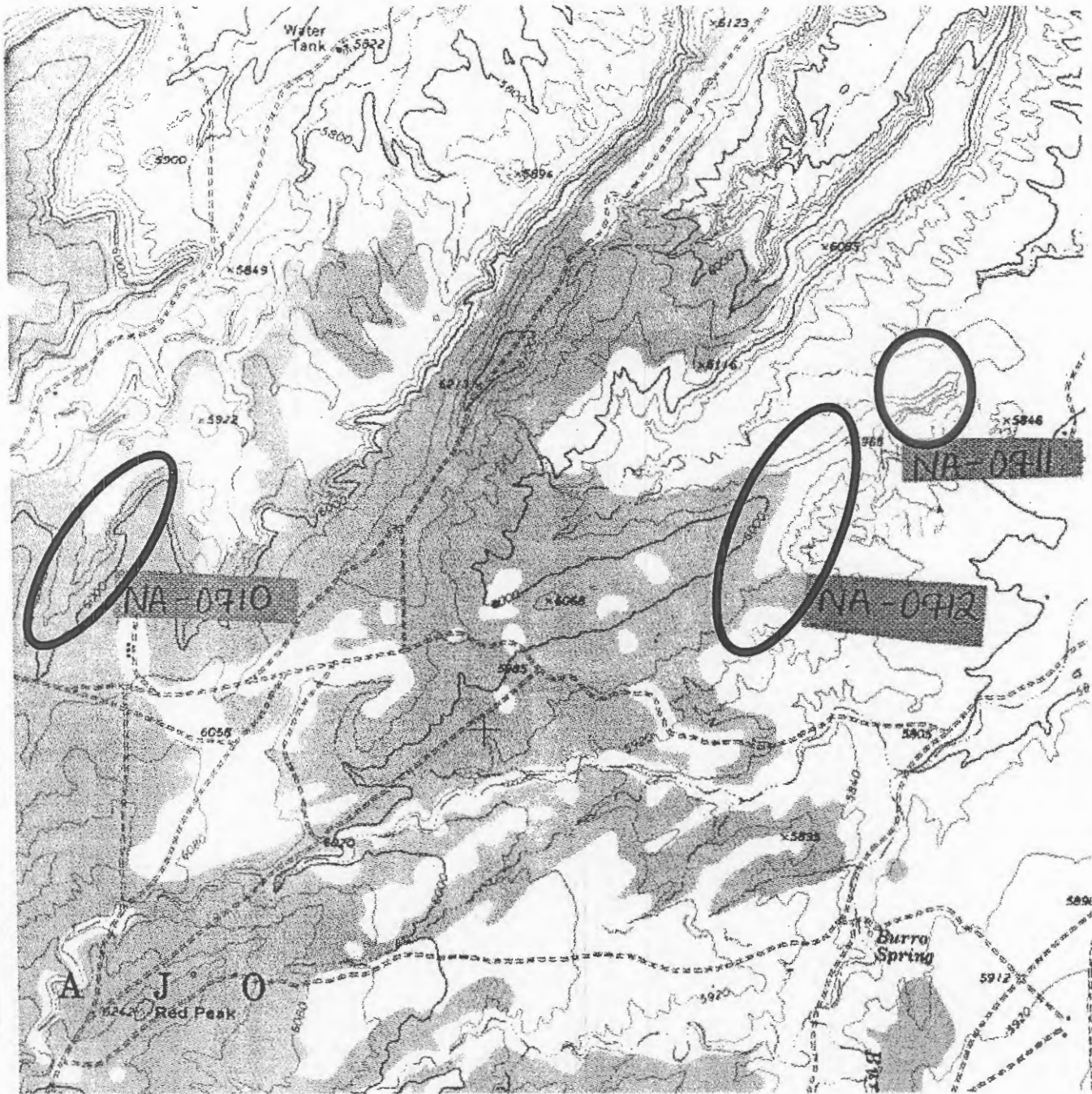


7.5 Minute Topographic Quad Map: Kinusta Mesa, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater, Cameron, Coalmine Mesa, Indian Wells, Rough Rock, Sweetwater
County: Apache, Navajo & Coconino
State: Arizona



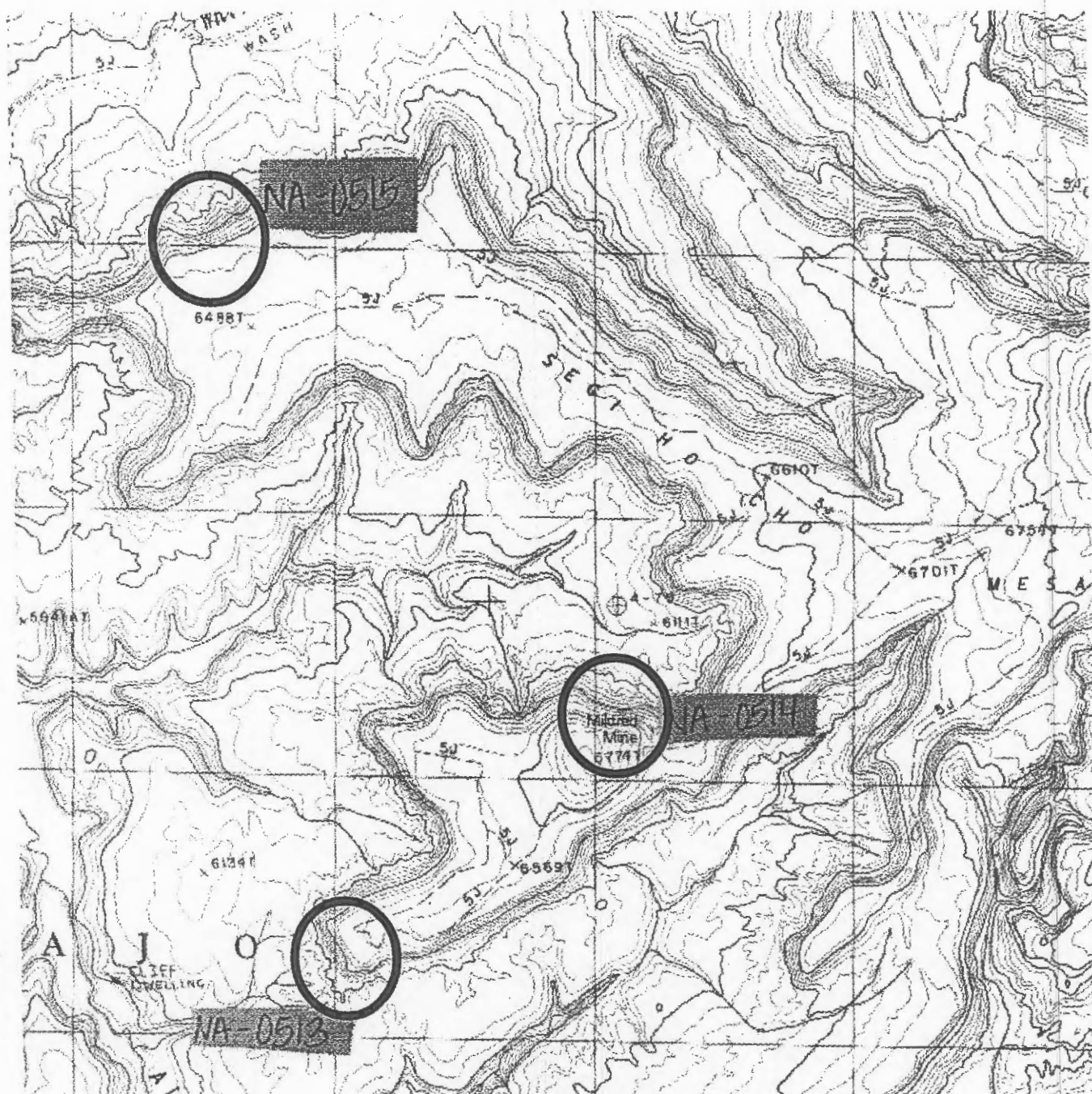


7.5 Minute Topographic Quad Map: Rough Rock NW, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater, Cameron, Coalmine Mesa, Indian Wells, Rough Rock, Sweetwater
County: Apache, Navajo & Coconino
State: Arizona



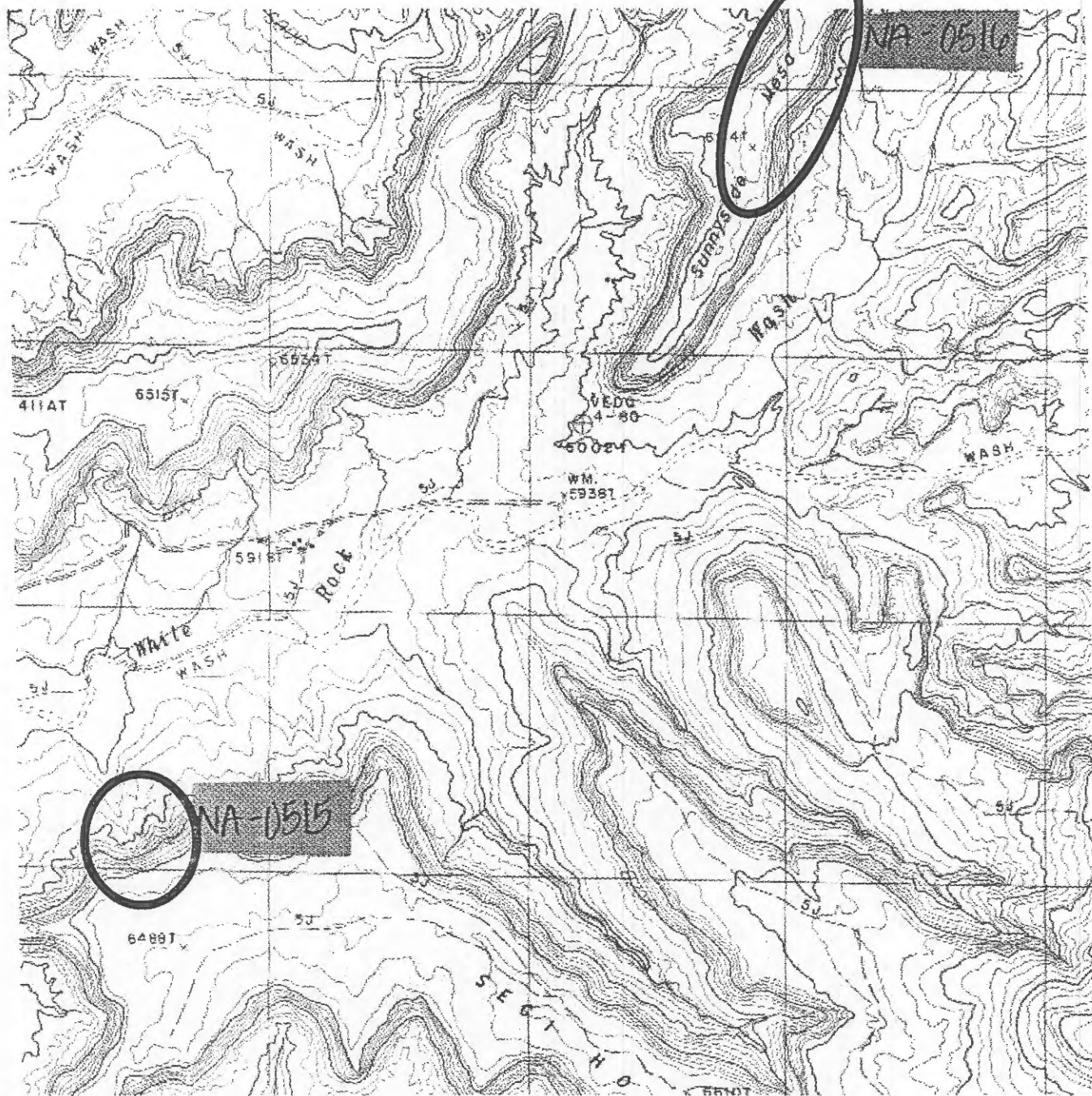


7.5 Minute Topographic Quad Map: Kinusta Mesa, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater,
Cameron, Coalmine Mesa, Indian Wells, Rough Rock,
Sweetwater
County: Apache, Navajo & Coconino
State: Arizona



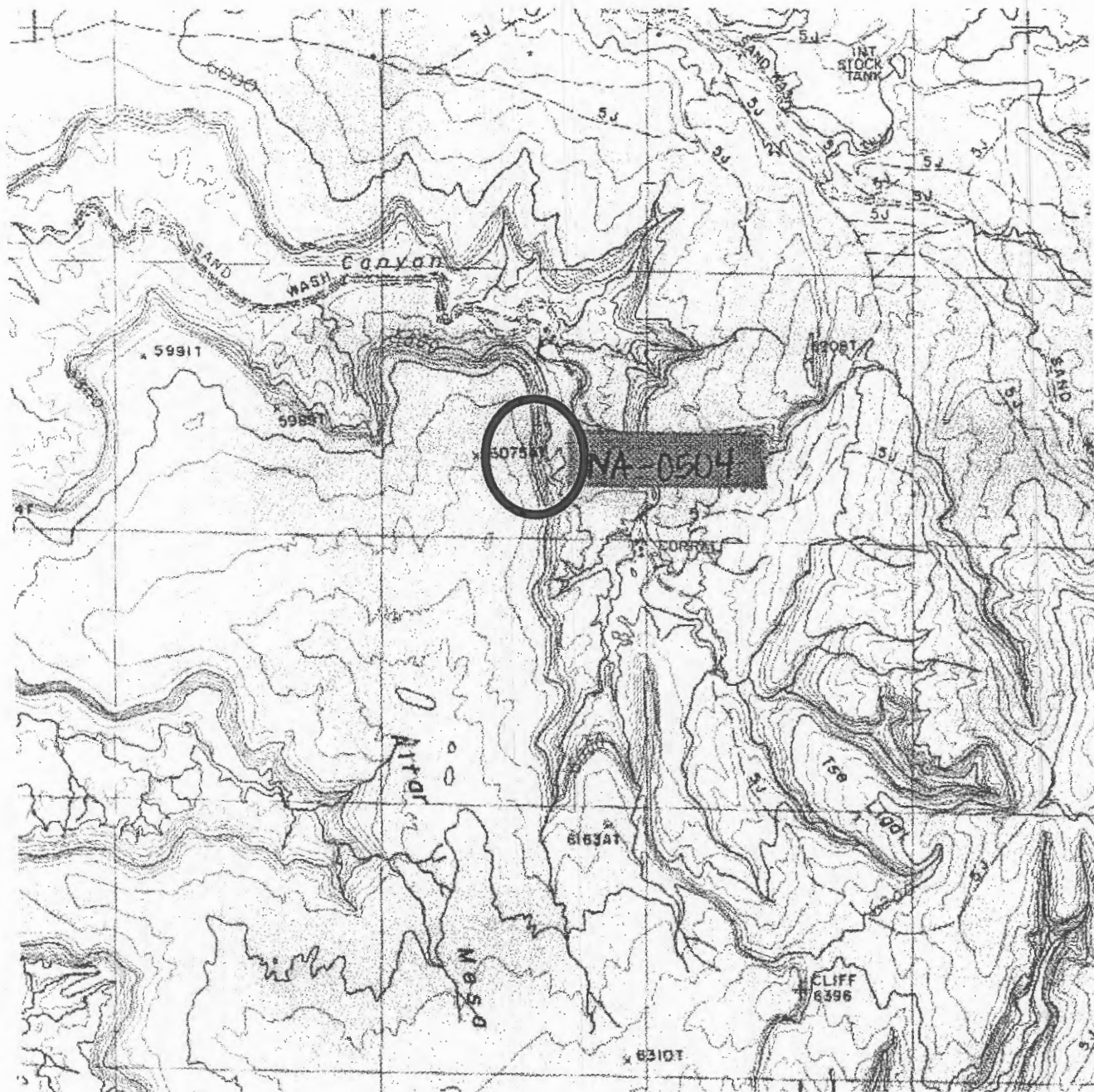


7.5 Minute Topographic Quad Map: Kinusta Mesa, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater,
Cameron, Coalmine Mesa, Indian Wells, Rough Rock,
Sweetwater
County: Apache, Navajo & Coconino
State: Arizona



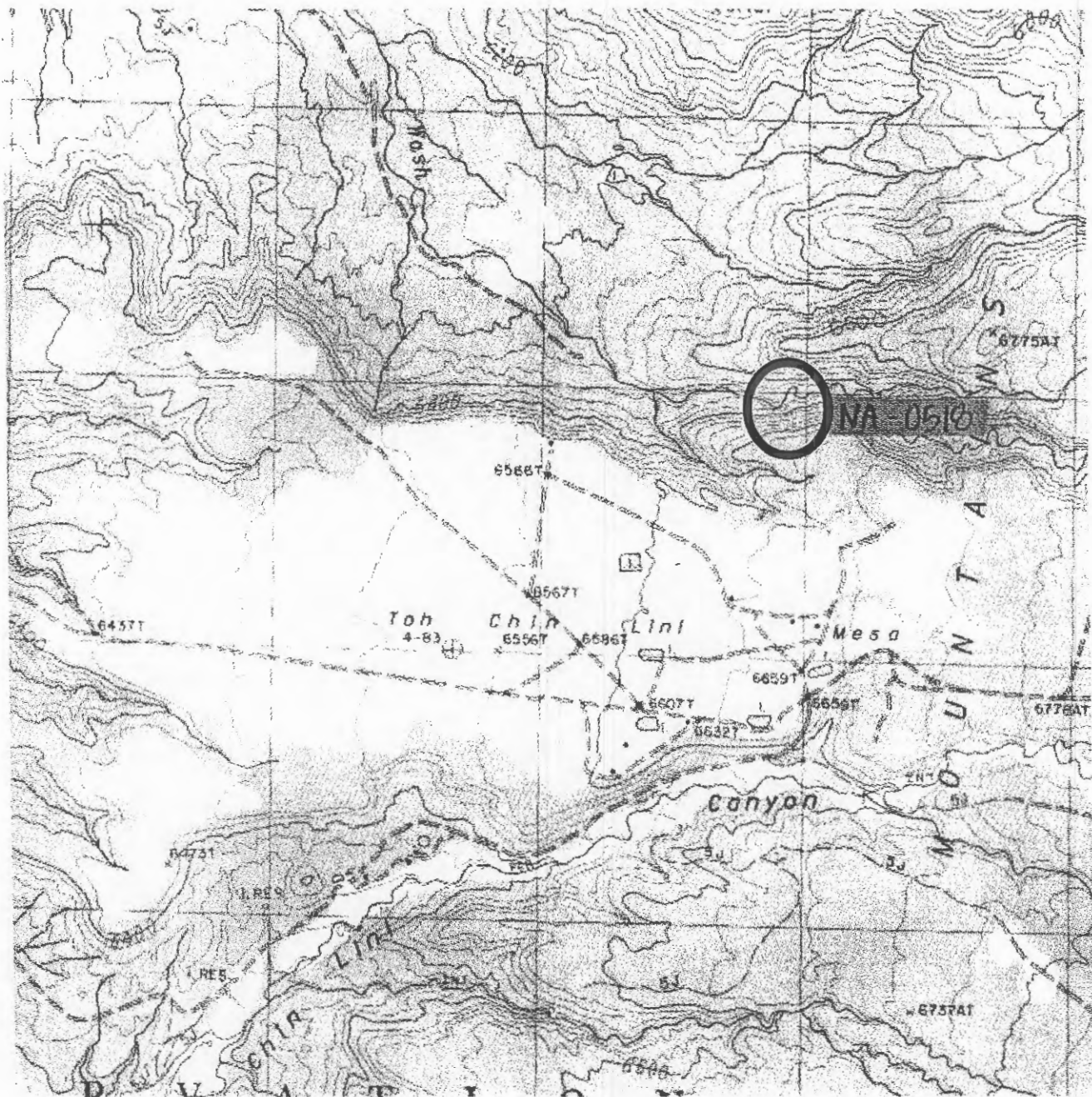


7.5 Minute Topographic Quad Map: Toh Chin Lini Mesa, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater, Cameron, Coalmine Mesa, Indian Wells, Rough Rock, Sweetwater
County: Apache, Navajo & Coconino
State: Arizona





7.5 Minute Topographic Quad Map: Toh Chin Lini Mesa, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter:

Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater, Cameron, Coalmine Mesa, Indian Wells, Rough Rock, Sweetwater

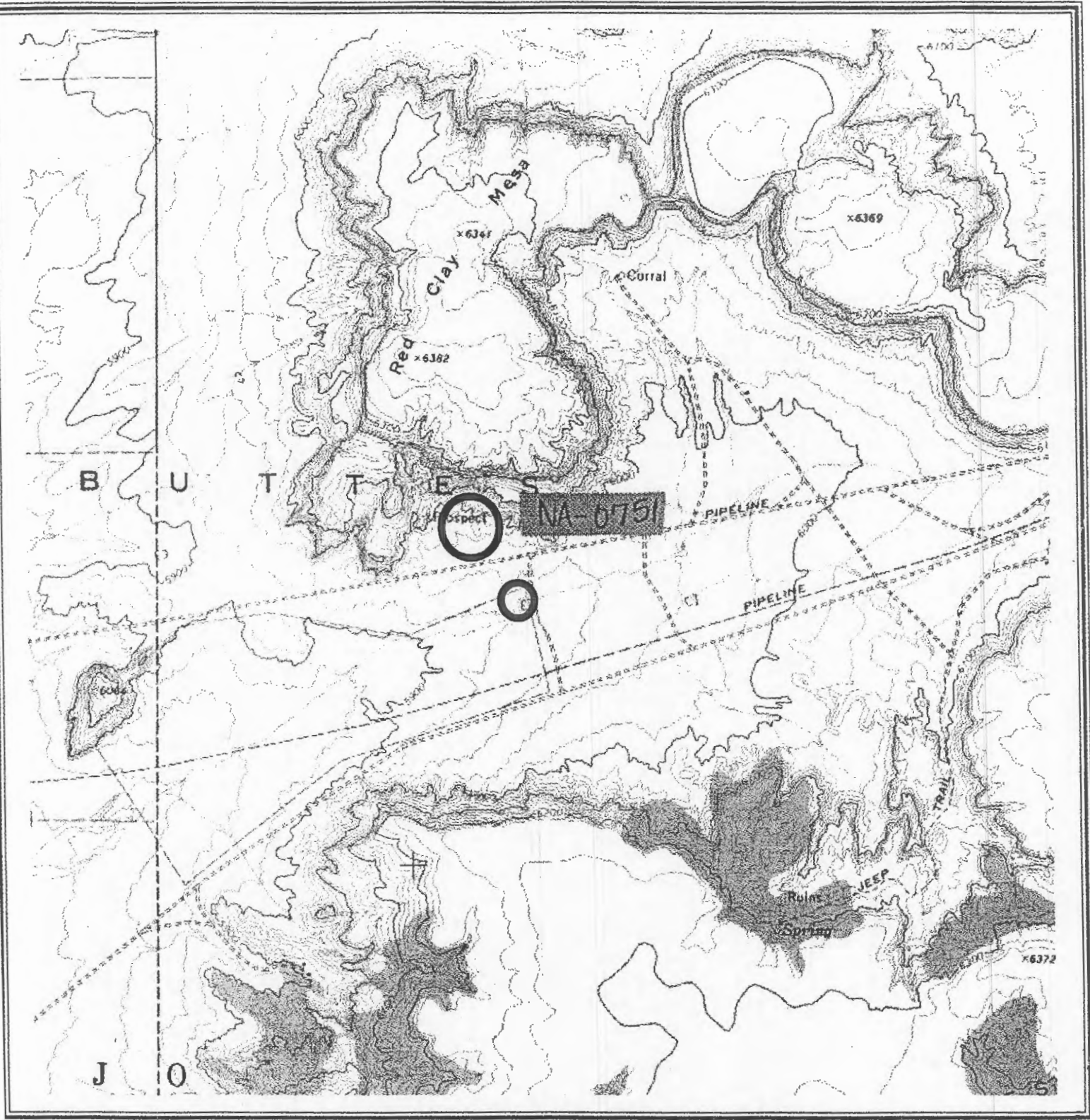
County:

Apache, Navajo & Coconino

State:

Arizona



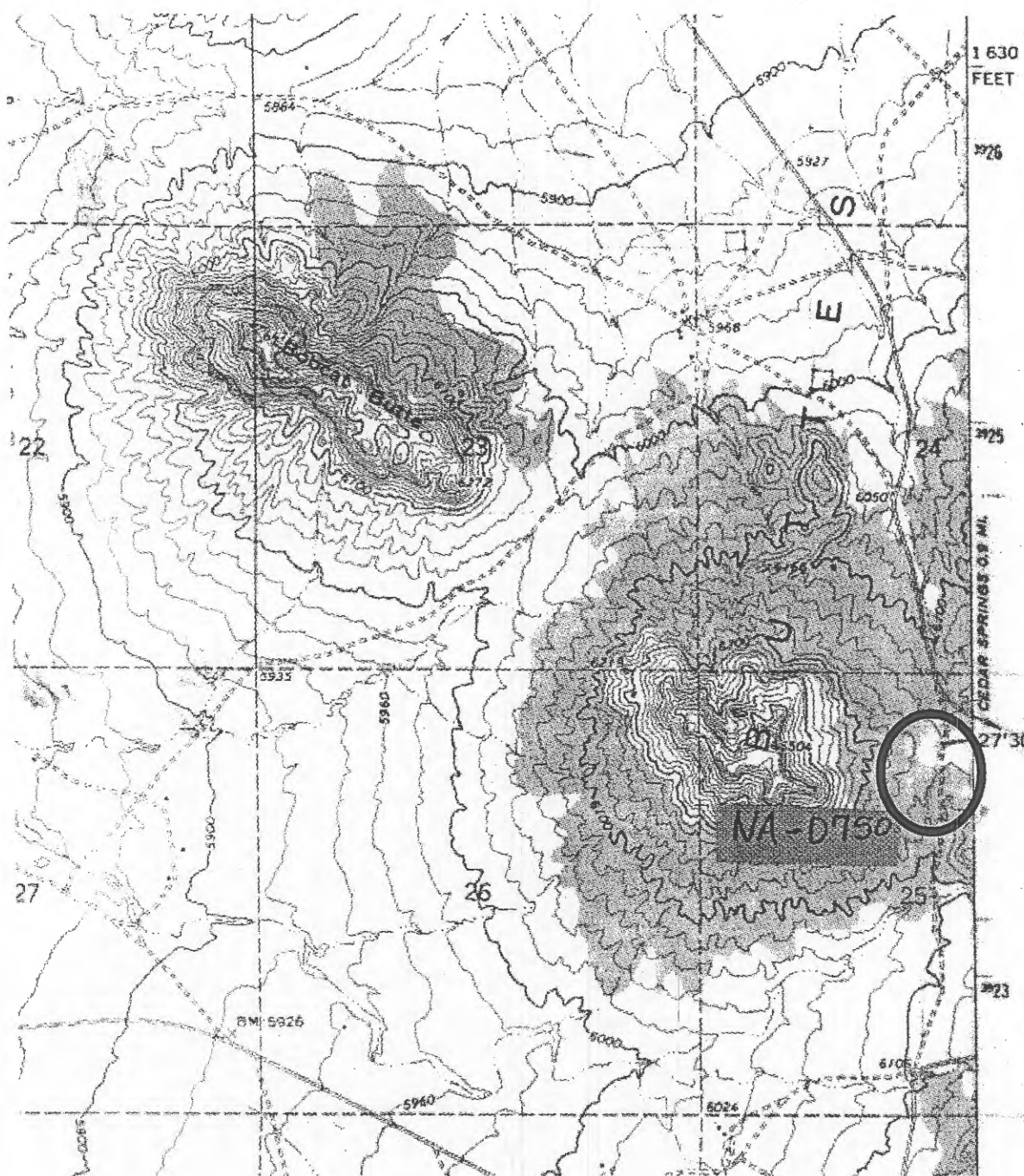


7.5 Minute Topographic Quad Map: Indian Wells, AZ

LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater,
Cameron, Coalmine Mesa, Indian Wells, Rough Rock,
Sweetwater
County: Apache, Navajo & Coconino
State: Arizona





7.5 Minute Topographic Quad Map: Shonto Butte, AZ

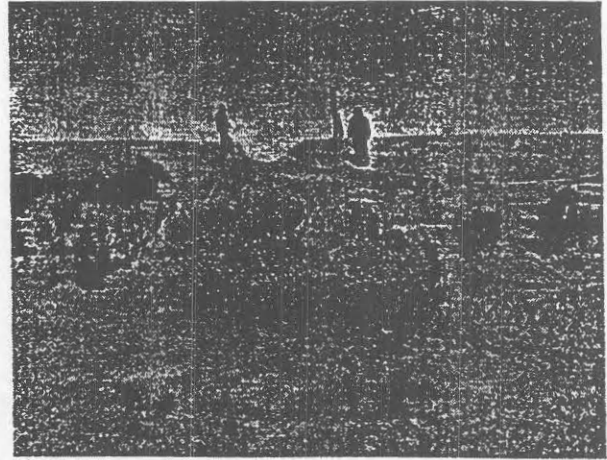
LOCATION in QUESTION:
SITE: 34 AML SITES

Chapter: Coppermine, Bodaway, Blue Gap, Tselani, Sweetwater, Cameron, Coalmine Mesa, Indian Wells, Rough Rock, Sweetwater
County: Apache, Navajo & Coconino
State: Arizona



Site NA-0175 (Dam Repair - Map No. 15); Scope of Work:

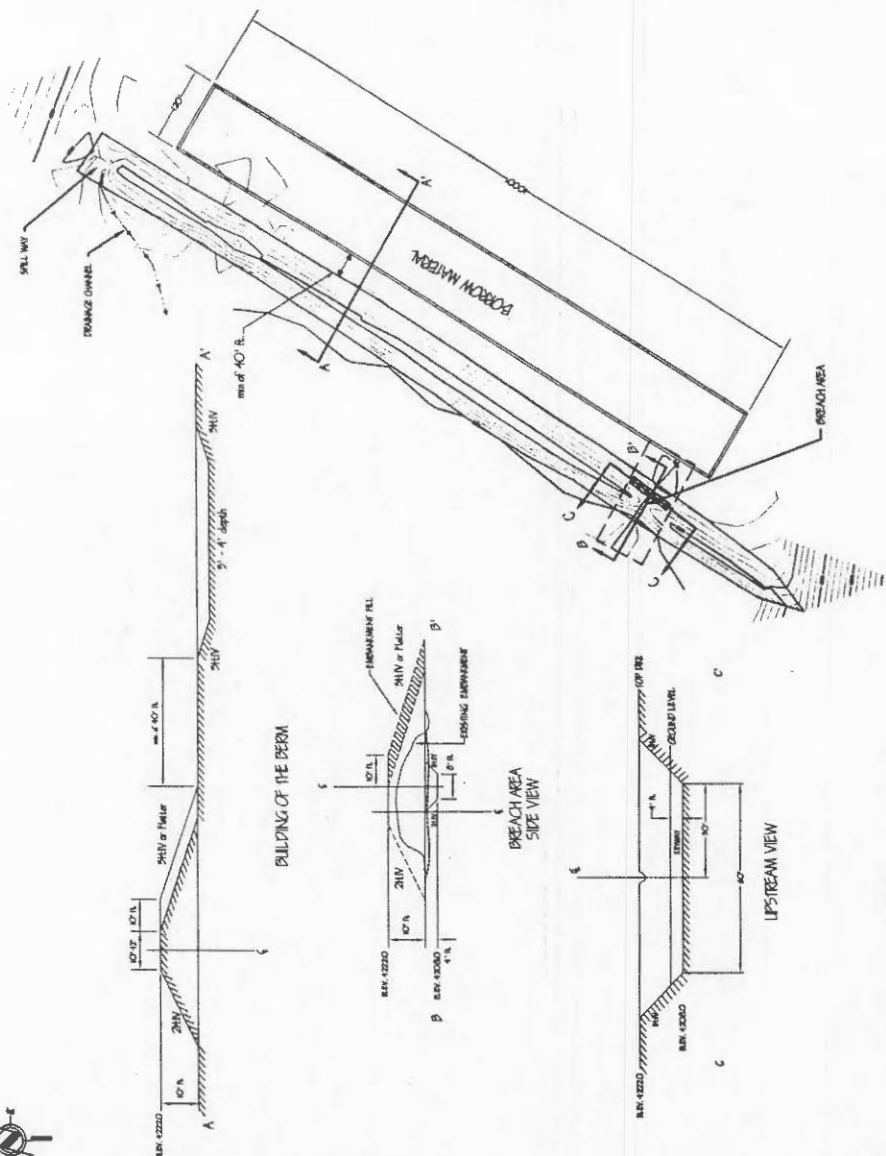
- A. The Dam repair will entail the excavation and backfilling of a breached portion of the dam. Borrow material will come from within the project boundaries. All backfill material utilized for the dam construction will be subject to soil testing to meet the compaction requirements at the Contractor's expense. Extreme care shall be taken to account for unforeseen heavy rains.
- B. The Contractor will be responsible for a subcontractor to perform the necessary field test to ensure that the backfill material meets the required specifications of 95% proctor, plus or minus 2 % of optimum moisture content.
- C. Start with the grubbing of all vegetation on the eastern bank of the dam and designated borrow area. Dispose of the grubbed material out of the designated working areas, spreading it out evenly.
- D. Excavate the breached dam area to the following dimensions: 60 feet bottom base, 1h:1v side slopes, to a depth of 14 feet from the top elevation of the dam. Cut out an 8 feet wide by 4 feet deep, 1h:1v side slope, keyway within the excavated dam, for a length of 60 feet running parallel with the dam. Any unsuitable material (such as low density or organic material) will be disposed of away from the dam, upgradient and away from the borrow area.
- E. Excavate and stockpile the borrow material for the dam repair. The borrow material can be excavated to a depth of 4 feet with the side slopes at 3h:1v. The total area will depend on the amount of borrow material required. The borrow area will begin no less than 40 feet from the toe of the dam. Ensure that no borrow material is excavated from any of the previously reclaimed areas. The total earthwork allowed for the dam repair is estimated at 1,600 bcyds. This includes the handling, stockpiling, transportation and compaction requirements.
- F. Start with the backfilling of the keyway by 8-inch lifts with proper compaction and moisture. Continue the backfilling of the keyway and the dam repair until the dam meets the required specifications, front slope of 3h:1v, backslope of 1h:1v, dam top width of 10 feet wide.
- G. Scarify the existing eastern embankment to a depth of 6-inches in preparation for the widening of the dam. Again, ensure that all vegetative and foreign material has been grubbed and disposed of.
- H. Widen the dam an extra 10 feet for the full length of 1,250 linear feet, side slope of 3h:1v and compact accordingly. This work is estimated at 6,500 bcyds.
- I. Contour the area in to blend all the disturbed areas in with the natural terrain. This includes all the travel areas. No disturbance to the spillway should occur.



Post-it® Fax Note	7671	Date	9/13/02	# of pages	02
To	Mandeline Rainhouse	From	Ernest Grayeyes		
Co./Dept	WIR AMLRP	Co.	TC AMLRP		
Phone #	928-871-6982	Phone #	928-283-3188		
Fax #	928-871-	Fax #	928-283-3192		

Scope of Work:

1. Clearing and grubbing of trees, shrubs, vines, and other vegetation from upstream face of embankment and roadway area. Slope to be stripped to a depth of 6 inches. Slope to be stripped to a depth of 6 inches.
2. Excavate and strip to a depth of 6 inches of embankment area. As shown with side slopes of 2:1 and cut 2 feet before upstream face.
3. Excavate and strip to a depth of 6 inches of embankment area. As shown with side slopes of 2:1 and cut 2 feet before upstream face.
4. Excavate borrow and transport earth materials to borrow and deposit in horizontal layers not more than 6 inches thick, and parallel to foundation and compacted as specified.
5. Prior to and during compaction operations, materials shall have moisture contents of $\pm 1-2$ percentage points of optimum moisture content and moisture uniform throughout each layer. Value for construction purpose is required.
6. In so far as practical, monitoring of material will be performed as size of excavation and if necessary as size of compaction.
7. After the material has been conditioned, it shall be compacted by a vibratory roller.
8. The excavation surface of the existing embankment shall be prepared for placement of embankment materials by scarifying to a minimum depth of 6 inches and moisture conditioned.
9. Dam embankment shall be constructed to the height and side slopes as shown on the drawings. Materials for dam embankment shall be suitable materials obtained from borrow area.
10. The dry density of the compacted fill shall not be less than 95 percent of the laboratory maximum dry density determined by proctor compaction test.



CAMERON 6 ANL RECLAMATION PROJECT

LEGEND

- Control Point (Echelon)
- Drainage / Water Body
- Road / Jump Trail
- Site Boundary
- Stock Pile (WPT)

THE NAVALO NATION - DIVISION OF NATURAL RESOURCES
NAVALO ABANDONED MINE LANDS RECLAMATION PROGRAM
TUBA CITY OFFICE, TUBA CITY, ARIZONA

NA-CITS DIKE REPAIR

DRAWN BY: J. EDISON

REVISED BY:

CHECKED BY: M. HAYZIE

APPROVED BY:

DATE: 04/16/02

MAP NO. 15

